

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A flexible pneumatic structural element comprising,
consisting of

an elongated air-tight hollow body (4) that can be subjected to pressure;
~~wherein~~ at least one pair of tight tension elements is helicoidally looped
around the hollow body (4) in respectively opposite directions on each compression
member; (2), and ~~wherein~~

two node elements (11) are respectively provided respectively per
compression member; (2), characterized in that

— the compression member (2) is being elastically bendable, has having a
plate-like shape, and is rigidly connected to ~~a~~ the shell; (1), in that

— the compression member (2) is being flat and adapted to can be rolled up
in a the deflated state of the pneumatic structural element; and, and in that

— the compression member (2) is being bent and essentially assuming
assumes a the shape of a cylinder segment in an the inflated, pressurized state of the
pneumatic structural element such that the pressurized shell (1) stabilizes the
compression member (2) in this shape.

2. (Currently Amended) The flexible pneumatic structural element according to
claim 1, characterized in that the wherein a connection between the compression
member (2) and the shell (1) is realized such that the stress σ_u of the shell (1) is
transmitted onto the compression member (2).

3. (Currently Amended) The flexible pneumatic structural element according to
claim 2, characterized in that wherein the compression member (2) is bonded to the
shell (1) or connected to the shell (1) by means of welding over its entire surface.

4. (Currently Amended) The flexible pneumatic structural element according to
claim 3, characterized in that wherein the compression member (2) increasingly unrolls
and assumes its stretched, functional shape as the pressure being built up in the shell (1)
increases.

5. (Currently Amended) The flexible pneumatic structural element according to
claim 4, characterized in that wherein the compression member (2) is designed such that
its buckling load is increased.

6. (Currently Amended) The flexible pneumatic structural element according to
claim 5, characterized in that wherein the compression member (2) is composed of two
plates (6) that form the a hollow body, wherein (4) when the hollow body it is subjected
to a pressure $p_1 > p_2$, namely such that the compression member (2) assumes a tubular
shape.

7. (Currently Amended) The flexible pneumatic structural element according to
claim 5, characterized in that wherein the compression member (2) is provided with an
elastic joint (5) that centrally extends over an its entire length of the compression
member and to which a web (7) is hinged, wherein the this web (7) is connected to the

shell (1) in the region of a the surface line lying opposite of the elastic joint (5) by means of a plurality of filaments (8).

8. (Currently Amended) The flexible pneumatic structural element according to claim 5, further comprising: characterized in that

at least one tubular shell (9) is arranged on the plate (6) of the compression member; and (2), wherein

an elastically bendable plate (6) is also arranged on an the inner side of the this tubular shell and bends up when the shell (9) is pressurized.

9. (Currently Amended) The flexible pneumatic structural element according to claim 1 or one of Claims 5-8, characterized in that wherein multiple compression members (2) are arranged on the shell (1).

10. (Currently Amended) The flexible pneumatic structural element according to claim 1 or one of Claims 5-9, characterized in that wherein the at least one compression member (2) is arranged within the shell (1).

11. (Currently Amended) The flexible pneumatic structural element according to claim one of claims 1, 5, 6, 8 or 9, wherein characterized in that the at least one compression member (2) is arranged on an the outside of the shell (1).

12. (Currently Amended) The flexible pneumatic structural element according to claim one of claims 1, 5, 6 or 9, wherein characterized in that the at least one compression member (2) is arranged between different layers of the shell (1).

13. (Currently Amended) The flexible pneumatic structural element according to claim 1 one of the preceding claims, wherein the two characterized in that its node elements (11) can be attached to connecting elements (15).

14. (Currently Amended) The A flexible pneumatic structural element according to claim 1, characterized in that wherein the two node elements (11) are provided with at least one eye (13), through which a bolt (17) of a non-rotatable mounting arrangement can be respectively inserted.

15. (Currently Amended) The A pneumatic element structure element consisting of flexible pneumatic structural elements according to claim 1 further comprising:

flexible pneumatic structural elements, one of the preceding claims, characterized in that the flexible pneumatic structural elements are connected by means of connecting elements; and (15), and in that

wherein the pneumatic element structure is automatically erected and assumes a predetermined shape when the flexible pneumatic structural elements are subjected to pressure .

16. (Currently Amended) The pneumatic element structure according to claim 15, wherein characterized in that the connecting elements (15) for the flexible pneumatic structural elements contain comprises:

—means for mounting at least two node elements; (11), and
—mounting means that are realized such that the flexible pneumatic structural elements are arranged at a predetermined angle relative to one another in their functional shape.

17. (Currently Amended) The pneumatic element structure according to claim 16, wherein characterized in that the connecting elements are provided with pairs of coaxial eyes (16), between which one respective node element (11) with an eye (13) can be non-rotationally mounted by inserting a bolt (17).

18. (Currently Amended) The pneumatic element structure according to claim 16, wherein characterized in that the connecting elements (15) are provided with at least two upper and two lower pairs of coaxial eyes, wherein and in that the position of the upper pairs relative to the lower pairs defines an the angle between the flexible pneumatic structural elements in their functional shape.